

# The Highwayman

East of Robbinsville  
Route 1 Sec. 3

The Highwayman Is Out  
For More and Better Roads  
in New Jersey

April, 1922  
Vol. I  
No. 9



The Old Way



And the New

"Service"

## A Record

### You Boys Have a Right to Be Proud of

Say, men, they had to hand it to you in that snow removal stuff, didn't they?

That was a record you have a right to be proud of—and that goes for the contractors and their boys, as well as for you "highwaymen."

The "snow season" is closed for another year now—but you have set a new high record for this kind of work that has made "the Public" realize more than ever the 100%-plus value which it is getting from the New Jersey State Highway Department.

With that thought in mind, and this year's experience to profit by, I know that New Jersey motorists can look forward to having, next year, the finest winter travel they have ever enjoyed.



Unless a community's "road plant" produces profitable transportation, taxpayers are out what the idle land might produce, as well as the repair money they put into it.

### The New Idea in Highway Work

You motor-fans—take off your goggles long enough to read the letters on snow-removal on the following pages!

Some of you are always looking for a chance to kick. Don't blame you for that—it's only human.

But there's just one idea I want to "get across" to you at the present writing. And that is this:—

If you will look behind the various activities of your State Highway Department, you will find back of all of them *one basic idea*—SERVICE.

It is because the Highway Department wants to give you *better service* that your detours are better and more plainly marked; that you get a monthly Bulletin telling you about them; that the poles along main routes are "banded" to tell you the direction; that the entire Department was organized, and the help of the State's leading contractors enlisted, to *keep the roads open* last winter.

"Service"—d'ye get me?

Hoping you are the same.

*The Highwayman*



BEFORE

And

AFTER



Route 2, Sec. 2—the kind of a road some folks used to think was "good enough", but THIS is the kind of a road that pays for itself in gas and rubber saved.



# The Highwayman

## The Highwayman

Published Monthly By The  
State Highway Department, at Trenton, N. J.

The HIGHWAYMAN will be sent free upon application  
to any citizen of New Jersey who is interested in  
"More and Better Roads For New Jersey!"

### THE HIGHWAYMAN

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C. F. BEDWELL                    EDWARD E. REED  
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6th Vice President	- -	H. D. ROBBINS, <i>Construction</i>
Executive Secretary	- - -	EDWARD W. O'BRIEN

## Gentlemen We Thank You!

Gratifying indeed have been the letters which have come in to this office from various individuals and organizations expressing appreciation of the fact that there has been so little interruption to traffic during the past winter, in spite of the several severe snow storms we have had.

Usually it is the lot of any public service body, such as the State Highway Department, to come in for plenty of kicks and knocks when anything causes the public inconvenience, whether or not such inconvenience could have been helped. And to receive nothing but thick, deep silence when things are moving satisfactorily.

It is mighty encouraging, therefore, to everyone in the Department, from top to bottom, to know that the motoring public of the State has appreciated the effort which the Department with the cooperation of the State's Road Contractors, has made during the past winter to "maintain traffic" under adverse weather conditions.

We, therefore, take this opportunity to thank all those who have been good enough to express in writing what they thought about the past season's snow removal work, and to assure them that this service will be not only maintained, but wherever possible, improved next winter.



**Smiling Art Bullock**

**Project Engineer**

**New Jersey State Highway Department**

To look at Art, you might size him up as the kind of a guy that is described as being "on the job".

And you would not be far off. You would not need to take one of those correspondence courses in character reading to make a good guess on Art.

Like Charlie Fishberg and Lee Grover, Art was born right here in Trenton. His first engineering feat was to test the compressive strength of glass bottles, by dropping them over the side of the crib. After that, he attended the public schools of the city of Trenton, and later the Drexel Institute at Philadelphia. In 1913, Mr. Bullock began work with a private engineering concern. Later he was connected with the Mercer County Engineer's office, from which he resigned some two years later to take up his duties with the New Jersey State Highway Department, in 1916, as assistant in the department of Bridges and State Roads.

After becoming Chief Draftsman in 1917, Mr. Bullock entered the military service. Upon his return he was assigned to the position of Assistant Division Engineer, to work with the Assistant State Highway Engineer, Mr. Reed.

Mr. Bullock became Projects Engineer in 1920, which position he now holds.



### NEW JERSEY AUTOMOTIVE TRADE ASSOCIATION

February 4, 1922.

Gentlemen:—I am directed by the New Jersey Automotive Trade Association to express the great appreciation felt by that body in the magnificent work your department did in removing from the highways of this State the large amount of snow which fell as a result of the last storm. It is most gratifying to each and every member of the State Association to know and feel that your Commission is so well looking after the interests of the users of the highways of this State.

Very cordially yours,

HERVEY S. MOORE.

The New Jersey State Highway Commission,  
Trenton, New Jersey.



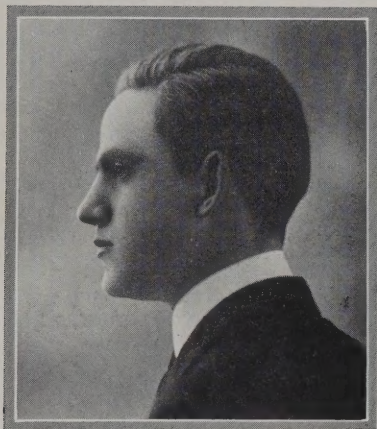
### NEW JERSEY FURNITURE WAREHOUSEMEN'S ASSOCIATION

Newark, N. J., February 27, 1922.

New Jersey State Highway Department,  
Trenton, N. J.

Gentlemen:—At the regular monthly meeting of this Association on Feb. 15th, the report of our Transportation Committee included a highly complimentary account of the efficient manner in which the Highway Department kept the State Roads open during the recent snow storms. Most of our members are engaged in long distance moving,





## No, Girls, This Is Not Your Favorite Movie Star. but— Glenn Bragg

Mr. Bragg has been connected with the State Highway Department as Senior Testing Engineer, since 1918. While originally an Illinoisian (we guess that is the way you spell it!), J. Glenn received his engineering education at the Carnegie Institute at Pittsburgh.

His first engineering experience was with the C. B. & Q. R. R., and left that organization in 1906 to cast his lot with the Geographical Survey division of the United States Government in the St. Louis, Missouri, district. After that he accepted a position with the Bureau of Standards at Pittsburgh, Pa.

While in the government service, Mr. Bragg was interested principally in structural machine designs and the inspection of materials and construction work. He also served as inspector on structural materials. While engaged in government work he assisted in the preparation of the following publications in the U. S. Bureau of Standards, Bulletins No. 101, "Steel Columns", No. 121, "Wire Ropes", and is the author of "No. 111 Brick Piers". Mr. Bragg severed his connection with the government to take up his present duties.

were high in their praise of the work done by the snow plows. A resolution was passed congratulating the Highway Department.

Incidentally we understand you issue a pamphlet called the HIGHWAYMAN which you will mail to our members, list of which I enclose. We will appreciate this very much.

Thanking you kindly, we remain,

Yours very truly,

NEW JERSEY FURNITURE WAREHOUSEMEN'S ASSOCIATION.  
Frank J. Summers, Secretary.

### CRANBURY INN

Cranbury, N. J., Feb. 11, 1922.

Mr. Thomas J. Wasser,  
State Engineer,  
New Jersey State Highway Dept.,  
Trenton, N. J.

Dear Sir:—Being a property owner in Cranbury, N. J., I think this an opportune time to compliment you and Mr. John T. Edwards on the prompt and efficient manner in which the men under you took care of the recent severe snow storm.

I can safely and truthfully say it was the first time in the history of Cranbury the surface water was drained so rapidly. Our gutters were opened and the roadway was drained every twenty-five feet, thereby keeping the road free of water at all times.

In less than twelve hours after the snow fall ceased you could readily see that no condition as we previously experienced would exist.

Hoping you will accept these few kind words in the spirit in which they are given, and that the good work will continue in the future, I beg to remain,

Yours truly,  
JOSEPH P. WINEKLHOFER,  
For the Cranbury Inn.

## NEW JERSEY STATE HIGHWAY DEPARTMENT

March 1st, 1922

### Executive

HON. EDWARD I. EDWARDS, *Executive*

*The State Highway Commission*  
and

THOMAS J. WASSER, *State Highway Engineer*

### ADMINISTRATION

A. LEE GROVER, *Secretary and Chief Clerk*

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CHAS. FISHBERG - - - *Assistant Chief Clerk*

MISS GRACE WILLIAMSON - - - *Chief File Clerk*

R. W. WILDBLOOD - - - *Purchase Clerk*

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C. F. BEDWELL, *Construction Engineer*

G. R. MOORE, *Ass't Construction Engineer*

R. A. MEEKER - - - *Right of Way Engineer*

C. A. MEAD - - - *Bridge Engineer*

THOMAS GEORGE - - - *Acting Supt. of State Labor*

C. A. BURN - - - *Northern Division Engineer*

H. D. ROBBINS - - - *Central Division Engineer*

J. A. WILLIAMS - - - *Southern Division Engineer*

### MAINTENANCE, EQUIPMENT AND PROJECTS DIVISION

EDWARD E. REED, *Assistant State Highway Engineer*

A. W. MUIR - - - *Superintendent of Maintenance*

JACOB HAGIN - *Superintendent of Plant and Equipment*

N. C. APPELEGATE - - - *Supervisor of Equipment*

A. D. BULLOCK - - - *Projects Engineer*

H. C. SHINN - - - *Engineer of Special Assignments*

### TESTING LABORATORY

R. B. GAGE, *Chemical Engineer*

J. G. BRAGG - - - *Senior Testing Engineer*

F. H. BAUMANN - - - *Senior Testing Chemist*

## And It Surely Did!

The following resolution was adopted by the State Highway Commission at its meeting held on the 28th ultimo.

"BE IT RESOLVED, that the New Jersey State Highway Commission, through its State Highway Engineer, Thomas J. Wasser, desires to express its appreciation to all the speakers, material producers, equipment manufacturers, contractors, material associations, and their representatives, Federal, State and County officials, employees of the Department, and the public in general who participated in the New Jersey State Highway Department Convention which was held at the Stacy Trent Hotel, February 15th to 18th, and especially to the hotel management and its congenial manager, Mr. Charles F. Wicks, which, taken collectively, produced the wonderful success the Convention attained." The consensus of opinion of all those who attended was that this Convention equalled that of any National Convention which they ever attended."

## Famous Sayings of Infamous Highwaymen

W. W. HORNER (Bridge Foreman—State Labor): "If it wasn't for the stumps."

R. H. ROBSON (Bridge Inspection—looking at 36 ft. concrete balustrade) "The rail is not perfect—it is 1-32 in. out of line."

C. E. BROWN: "I'll check it."

R. W. WILDBLOOD: "I'll get you good boots this time."

J. C. BRAGG: "Well—I don't know—I'll tell you—"



# The Highwayman

## The Highway Contractors' Column

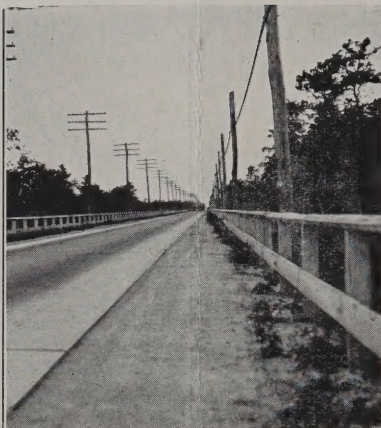
The Highway Contractors' Association of New Jersey had its first quarterly meeting the 10th day of March. The Executive Committee of the Association met in the Association's offices, American Mechanic Building, Trenton, New Jersey, in the afternoon and discussed many matters pertaining to the business of the Association and highway work in general.

It went over its plans for its summer's program and voted that the Association do its utmost to work in co-operation with the State Highway Department to employ efficient organizations to perform the work of highway construction in as efficient a manner as is possible to be done.

Among the principal matters that were discussed by the Committee was the reduction in bond rates. It maintains that the present bond rate, which is  $1\frac{1}{2}\%$ , is too high; and the Association is again on record to do its utmost for this excessive rate on bond rates.

After the Executive Committee meeting a banquet was held by members of the Association at the Hotel Penn, at 6.30 P. M., and was attended by a majority of the contractors of the Association. An enjoyable time was had by all present.

President John M. Kelley in his speech at the banquet again urged the members of the Association to work in cooperation with the State Highway Department in order that the tax payers might be getting the full return for



On the road from Absecon to Egg Harbor. (Route 3). One of the most traveled roads in the State, as you can see from the oil streak in the middle of the pavement.

their money expended. He also complimented the members for their earnest efforts in securing reputable and responsible contractors as new members since the last quarterly meeting, and urged them to continue to secure more such contractors as members of the Association.

### Ever Happen to You?

*He figured the job with unusual care;  
A nice little profit was certainly there.*

*When the job was all done and he  
counted the "mon",  
There wasn't a penny to spare.*

*The figure he checked as he heaved a  
big sigh;  
And a far-away look came into his  
eye;*

*Then said, "If I can, I'll murder the  
man  
Who boasted that "figures don't lie."*



## TRENTON AUTOMOBILE TRADE ASSOCIATION

Trenton, N. J., February 4, 1922.

Gentlemen:—At a regular meeting of the membership of the Trenton Automobile Trade Association held on Friday, February 3, a resolution was unanimously adopted, thanking your Commission for the great work done in the removal of snow from the highways of this State. Our membership to a man appreciate this very much.

Very cordially yours,

HERVEY S. MOORE.

The New Jersey State Highway Commission,  
Trenton, New Jersey.

## This Is Good Government

Now and then the United States Government does something down-right smart; something which benefits you and every other individual in the country. And when it does, the fact should be heralded and set forth in its details to encourage more of the same.

Nobody will deny, for instance, that every additional mile of good roads will serve to diminish the immense costs of distribution and transportation—that mean gnawing expense which doubles the price of virtually everything we buy.

Every dollar saved in the cost of transportation jingles itself back into the pocket of some one who will be extremely glad to have it returned to him.

Consider, therefore, the Federal State Aid Road Building legislation put into effect by the Government during the past few years.

Six years ago, for the first time in more than a century, the Federal Government undertook to help the States

build good roads all over the country. The first State-aid act appropriated 75 million dollars to be apportioned among the States. In 1919 further legislation added 200 millions; and last year President Harding signed a third measure adding another 75 millions.

Up to last November, 200 millions of the total 350 millions had been allotted for road building in all the States. The States had matched this amount with \$265,529,090.

The roads that the nation will gain from this money totals 27,000 miles, which is a strip long enough to encircle the globe with a broad highway, with some thousands of miles left over. Already completed are 9,555 miles of roads; and 12,000 miles more are nearing completion, so that about 21,000 miles have been built since President Wilson signed the first road act six years ago. This year's \$75,000,000 with what the States add to it, will mean 10,000 miles more of good roads for the United States.

The really smart thing that the Government did in this legislation was to stipulate that:

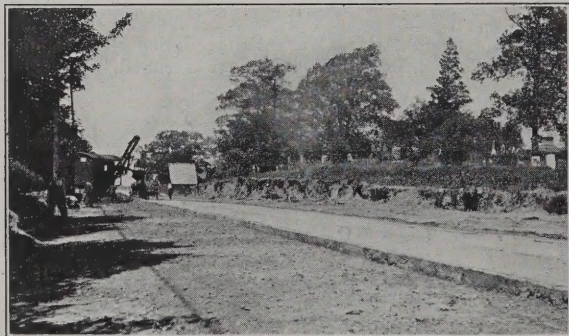
1. Each State participating must have a competent highway commission, which only half the States had when the legislation was first passed, but which all have now.

2. Before Federal funds become available, assurance must be given by the State that the roads built will be properly and permanently maintained; and it has been provided that if any State fails to make necessary repairs, the Government will make them—and, until the bill is settled, the State will get no more Federal funds.

There are good provisions in the law. The funds are fairly proportioned between main-traveled highways and connecting roads; and various materials and styles of construction are permitted, regulated by the amount and kind of traffic each road is expected to carry.

That is Collier's idea of constructive national legislation. Take a couple of examples of how it is working out in plain, every-day communities.

For example, in Lauderdale County, Mississippi, records of hauling costs were kept before and after road improvement. The average load on the old roads for a two-horse



Building a road half at a time in order to maintain traffic. (Route 4, Sec. 3-A). Convenient for the motoring public, but it adds to the cost as the machinery and building crew have to go over the same ground twice



## The County Engineers' Column

(NOTE) Under this head, from time to time, we have asked the County Engineers of the State to say a word for themselves—which they are perfectly capable of doing!

They are starting off easy, but keep your eye on this spot!—Ed.)

The officers and members of the New Jersey Association of County Engineers desire to extend their greetings to the readers of the HIGHWAYMAN, and to express their thanks to the Editor for his kindness in permitting the Association to use a column of the paper monthly.

We expect to make good use of the column and more closely unite the County Engineers to the Highway Department and the public.

### Committees of the New Jersey Association of County Engineers

Executive—Harris, McClave, Ferguson, Radigan.

Legislative—Keasbey, Wills, Schneider, Nelson.

Publicity—Radigan, Stickel, Storer, McClave, Smucker, Floyd.

Highway Signs—Bauer, Nelson, Geo. K. Allen, Jr., Schulte.

Bridge Committee—Nelson, Goodkind, Ferguson, Gilt. Standard Form—McClave, Radigan, Albertson, M. D. Allen.

Engineers' License Law—Vetter, Sparks, Goodkind, Smucker.



Harry F. Harris

## Harry F. Harris

President of the New Jersey Association of County Engineers

Another engineer from Trenton!

He started out on Feb. 24, 1883. After which he wound his devious way through and around the Public Schools, the School of Industrial Arts, and private tutors.

1900 to 1901, employed by C. C. Haven, Civil Engineer, as rodman; 1901 to 1903, with American Bridge Company as draftsman and detailer, Trenton Plant and Brooklyn Plant.

1904 to 1907, with the City Engineer of Trenton successively as draftsman, computer, transitman and chief of party.

1907 to 1911, with the City Engineer as Engineer in charge of street paving.

1911 to 1917, with City of Trenton under Commission Government as Assistant Engineer of Streets. ( Having served under three different political administrations

with the City of Trenton).

1917 to date, with County of Mercer as Mercer County Engineer, during that period supervised several million dollars' worth of public improvements. (Inaugurated plan for systematic improvement of County road system.)

President Engineers Club of Trenton.

President New Jersey Association of County Engineers.

Member American Society Municipal Improvements Association.

Associate Member American Society of Civil Engineers.

team was about 1,750 pounds, and on the new roads about 2,750 pounds. The old hauling cost was figured at 37 cents per ton-mile; while the cost on the new roads was only 20 cents.

The saving of 17 cents per ton-mile amounts annually in that one county to \$43,400. That saving, if applied to principal and interest on the bond issue from which the roads were built, would in seventeen years pay the entire original new road cost.

Better roads, also, increase the value of farm and suburban property. In the same Mississippi county increases of value have leaped from 50 to 500 per cent with the coming of good roads. One tract of forty acres, four miles from the county seat, cost \$1,000 before the good roads came in, and sold next year for \$4,200 after the roads were built. The average valuation of property along these roads soared from \$23.89 an acre to \$55.18, or an increase of 131 per cent.

These are random examples. They are being matched, even beaten, throughout the country wherever good roads are being built.

Good roads increase the trading area of merchants by making it possible for more customers to get to them from greater distances.

Good roads widen the city's circle, to include the neighboring farms, creating better understanding of mutual problems, which is the first step toward a real solution of those problems.

Good roads relieve the railroads of non-profitable short-haul traffic by making it possible to establish profitable truck routes.

Take just one man's viewpoint—a farmer's—in these lines written quite recently by Charles P. Huntington of Shore Acres Farm, Gray's Lake, Illinois:

"Roads are of such importance that they may be compared to our lives; they are both good and bad; they are smooth, even, level, wide and full; they are hilly, narrow, and winding, dangerous, shadowy, and bright; and they show the effects of environment and care, even as we.

"They are the very means of our life, for over them passes the food which must keep the people of the cities alive.

"Without roads cities could not survive, and country folk would be without many of the present necessities, comforts and luxuries of life, which they are now able to

enjoy. They are the connecting link between the city business man, the manufacturer, and the farmer, dairyman, and producer of food. They alone make it possible for both country and city to live up to our present standard of living, and they will be largely responsible for any rise which may take place in that standard.

"Who, then, can place a value on roads, and who is great enough to say what their true service to mankind is? Can any man picture a country or a land without roads?

"A good man sets an example; a good road is likewise an example; and as we have too few good men, so have we too few good roads. Only when we find a travelable road going past every farm, through every village and city, will it be time to cease talking good roads."

We say that if the Government will go steadily on—wiping out useless expenditures of hundreds of millions for needless employees, overlapping bureaus and branches, top-heavy armament, and all the rest of it—then there will not only be lower living costs and lower taxes, but more money for such needful things as road building.

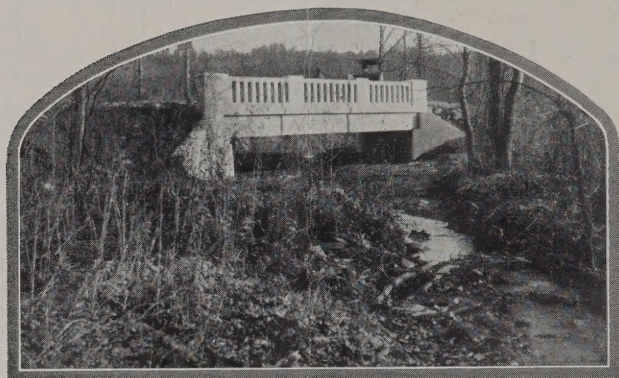
—Collier's Weekly.



This shows you how one slab is joined to the next. (Route 4, Sec. 3-A). The bars sticking out of the concrete are wrapped with tar paper. This allows the next slab to expand and contract without cracking, but prevents it from raising above or settling below the first slab.



# The Highwayman



*One of the many bridges built by the State Labor Forces—and a credit to them*

## Bridges Must Be Safe

By JOHN L. VOGEL, Assistant Bridge Engineer

We will all agree that a chain is no stronger than its weakest link, also a state highway is no stronger than its weakest bridge; therefore, it is important that we give careful consideration to the strength of our bridge structures as every bridge should be capable of supporting any load which is permitted to use the highways. Also the structure should be so designed that any future increase in loading will not necessitate the strengthening or rebuilding of it.

The State owns at present 725 miles of highways on which exists 604 bridges over 5 ft. span. The bridges are timber, masonry and metal structures of various kinds. After careful investigation we have found that the majority of these structures were designed for loads of five and six tons trucks while in several cases we have found the existing bridge to be overloaded with its own weight.

Specification as to concentrated loads for highways have always varied considerably. Traction engines, road rollers and motor trucks and various distribution of load to the wheels all give different results even when the total weights of the different vehicles are the same.

The standard loading now used by New Jersey in the design of bridge structures is a twenty ton truck, having equal distribution on two axles spaced ten ft. on centers and wheels five ft. on centers. This loading was adopted after a careful study of the various conditions of truck loadings actually in use on State Highways. It is the aim of the Highway Department to produce bridges adequate for the demands of modern State Highway traffic.

It is also important that continual inspections and repairs be made to the light structures to keep the highway open to traffic until these structures are rebuilt.

It is especially important that the bridges on our State Highways be adequate for modern traffic, as New Jersey is linked between the two great states of New York and Pennsylvania.

In the design of new bridge structures a careful study

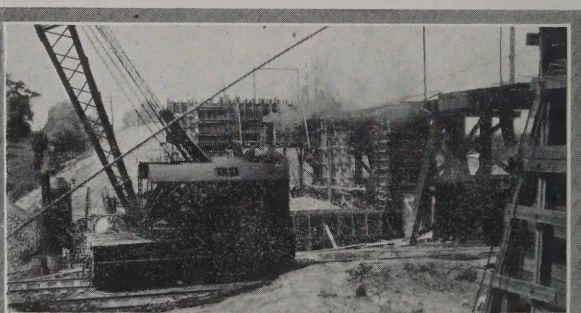
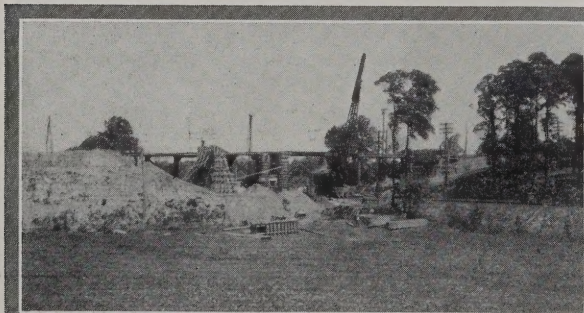
is made of each bridge site to determine the proper area of waterway. This is determined from existing openings on the stream, erosion of river banks, high water condition, slope and size of watershed and condition for run off. This procedure is facilitated by the use of complete and accurate topographic maps of the state from which it is able to determine the size, shape and slope of watershed and fall. By the use of a formula known as the Talbot formula, a check is made of the area of waterway determined.

Also sub-soil conditions are studied at pier and abutment locations by means of core borings. These borings are taken by the State Highway Department's boring machine at a minimum cost, as it was found that by doing this work ourselves a considerable amount of saving was made. After analysis of sub-soil conditions the foundation can be accurately designed and a safe foundation results.

The type of structure adopted depends on several conditions, principally the economy of the design, grade of road and underclearance. Also in the adoption of the type of structure consideration is given to maintenance and inspection. Maintenance is always reduced to a minimum. Proper attention is given to drainage of the sub-structure by means of weep holes provided in the walls. The entrance to weep holes is protected by rip-rap which affords proper means for the discharge of the water. Also careful study is given to the aesthetic design in order to create a pleasing appearance to the eye, which does not cost any more in producing this condition. Attention is also called to the standard type of reinforced concrete railing adopted by the State which is not only pleasing to the eye but also affords the necessary protection to traffic and is designed to withstand the impact from vehicles which become unmanageable.

We are providing bridges which are best suited for their location, economical, safe for modern highway traffic and in keeping with their surroundings.

JOHN L. VOGEL.

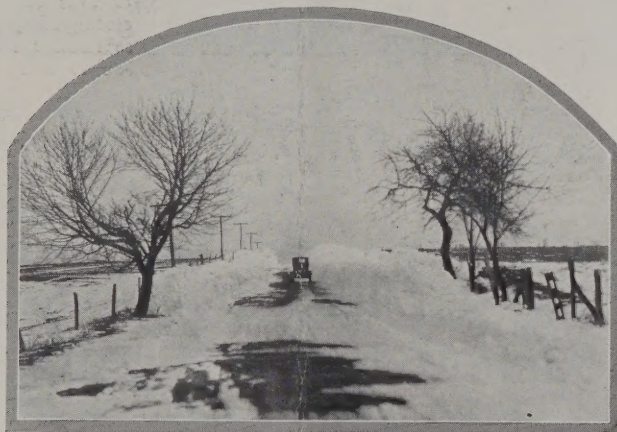


*Building the bridge at Kinkora*

*When you go over one of the new bridges—where you don't have to slow down to "5 miles an hour", it may look as if it just grew there. But you can see from the photograph above, that the building of a bridge is quite a job*



*Here's a good example of "service, the new idea in Highway Management." (Route 16, between Princeton and Somerville)*



## Letters on Snow Removal

Dear Sir—My opinion concerning Snow Removal by State Highway Commission on State Roads in this County is that the State has done splendid work in the removal of snow from State Highways in Passaic County.

GARWOOD FERGUSON,  
County Engineer, Passaic Co.

\* \* \* Results prove that the best organization for this purpose in the country, exists right here in New Jersey.

—HARRY F. HARRIS,  
County Engineer, Mercer Co.

\* \* \* not only a great convenience for the travelling public, but of benefit to the roads. Good work was done on the state roads in my locality this year.

G. K. ALLEN, JR.,  
County Engineer, Monmouth Co.

\* \* \* that it has been very promptly and efficiently done.

HARVEY SNOOK,  
County Engineer, Sussex Co.

\* \* \* It has been promptly and thoroughly done. State Dept. for this work in Morris is well organized.

WINFIELD HOPKINS,  
County Engineer, Morris Co.

\* \* \* The work was quickly and well done and many citizens have commended the prompt action.

J. L. BAUER,  
County Engineer, Union Co.

\* \* \* the work was very satisfactory in that it made driving much safer and smoother, will undoubtedly reduce cost of maintenance this spring.

HARRY W. VETTER,  
County Engineer, Warren Co.

\* \* \* Most economical and efficient system. Foremen, truckmen, school children, residents could carry on their work without delay.

FRED. C. SCHNEIDER,  
County Engineer, Middlesex Co.

\* \* \* that the service is highly efficient and the general public is well pleased with it.

A. H. NELSON,  
County Engineer, Atlantic Co.

\* \* \* that it is decidedly a success, and a great benefit to both the pavement and the traffic.

WM. C. CATTELL,  
County Engineer, Gloucester Co.

\* \* \* Prompt and effective work. Is worth its cost in conserving the road not to speak of convenience to traffic.

GRANT DAVIS,  
County Engineer, Hunterdon Co.

\* \* \* The snow never had a chance in this section. Satisfaction has been expressed throughout the County. Accept our thanks, Tom.

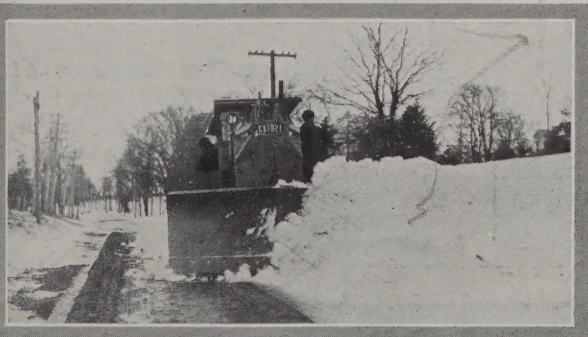
G. M. ABBOTT,  
County Engineer, Ocean Co.

\* \* \* that the work was prompt and efficient, delay to vehicular traffic and inconvenience to the travelling public being entirely eliminated.

HARRY C. VAN EMBURGH,  
County Engineer, Somerset Co.

\* \* \* In view of the present day traffic it is not only desirable but absolutely necessary. It further prevents snow ruts and pavement damages.

A. P. McCLAVE,  
County Engineer, Bergen Co.



*Right After the January Blizzard*

*Some drifts!—as you can see. But even the big trucks were able to "carry on." The big fellow at the left is being pulled out by a State Highway Department truck. On the right, a locomotive type snow-plow pushed by a tractor (Route 13, near Lawrenceville).*



# The Highwayman

## GLUTRIN



### Glutrin



When You Are Planning  
Next Season's Road Work  
Consider Its Many Merits

Glutrin is the best **binder** yet discovered for gravel, stone, sand-clay, slag, or earth roads.

Glutrin is not only the **best binder**, but it is by far the **most economical**.

Glutrin-ized gravel roads are hard and smooth **all year round**.

Glutrin-ized roads shed water, and do not **rut up** during the winter months.

All gravel roads of the New Jersey State Highway System were treated with **Glutrin** last year. Read the following (reprinted from the Daily Pioneer of Bridgeton, N. J., Tuesday, Feb. 14, 1922) if you want to know

#### *What Local Authorities Think of Glutrin Road Binder:*

##### "SHOWS VALUE"

<p>"Last fall the state highway department caused west Commerce street to be flushed with glutrin, an oil-like preparation which has for its object the laying of the dust and preventing the gravel on the roads to be cut up with the traffic. The glutrin application also has had the effect of giving the street a surface which turned</p>	<p>much of the water, and the results show a very much improved condition this winter. While most of the gravel streets are soft with mud, west Commerce street is comparatively firm and free from mud, and much smoother in consequence. The experiment would seem to indicate that the glutrin application greatly improves dirt roads."</p>
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Glutrin has been manufactured by us in our own plants for over 15 years. We have our own tank car line in which to deliver the product. The material used in New Jersey was applied by Mr. L. Young, Trenton, N. J., with pressure distributors especially built to handle this product.



Send us your name, and let us put you next to **Glutrin!**



**Robeson Process Company**  
Fifth Avenue Building, 200 Fifth Avenue, New York



## Which Car Is Best?

You have your opinion.

But what car isn't BETTER on a Concrete Road?

The car with the highest gas mileage has *higher* mileage on Concrete.

The car with the quickest "pick-up," picks up *quicker* on firm, unyielding Concrete.

The least expensive car to drive is *less* expensive on Concrete. And the gritty Concrete service is skid-proof. Motorists know these are facts—and motorists, if they insist, can get the kind of roads they want.



*Our Booklet R-3 tells other interesting things about Concrete Roads. Write for your copy.*

### PORTLAND CEMENT ASSOCIATION

347 Madison Avenue, New York

*A National Organization to Improve and Extend the Uses of Concrete*

Offices in 23 Other Cities

## IN USE SINCE 1889 **Dragon** PORTLAND CEMENT

### *Every Sample Passed* The State Highway Department Tests

In buying concrete, nothing is so important as to be sure of getting *uniform* quality.

Last season, thousands of barrels of *Dragon* Portland Cement were used in highway construction in New Jersey.

In the State Highway Department tests of this material, *every sample was accepted*. Not a single rejection was made.

Remember that fact when placing *your* order for this year's cement requirements.

*"For Cement you can depend on—use Dragon"*

### Lawrence Cement Co.

PHILADELPHIA

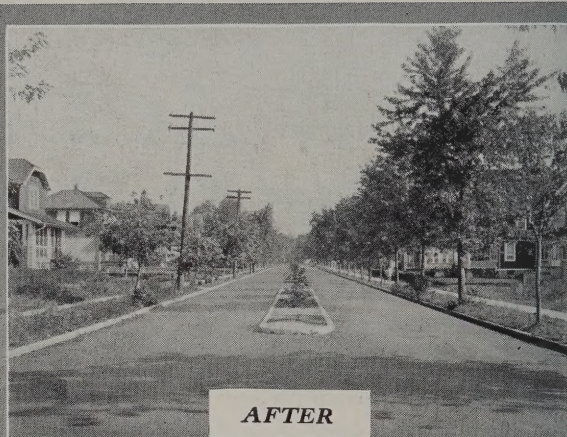
302 Broadway, NEW YORK



# The Highwayman



Mud all winter—  
choking dust all summer



Smooth, hard, dustless.  
mudless 365 days a year

## Mr. Property Owner

### Wouldn't You Pay Fifty Cents a Week to Change From "Before"—— to —— "After"

The above pictures are actual photographs of Redford Avenue, Cranford, N. J. before and after it was paved with a "Tarvia-X" Penetration Pavement.

Instead of wading through mud all winter and breathing choking dust all summer, the home owners on Redford Avenue now enjoy a smooth, hard, dustless and mudless pavement 365 days in the year.

And all for the nominal sum of about FIFTY CENTS A WEEK additional taxes on each fifty foot front lot.

Would you like to live on a Tarvia street? Would you like to benefit by the increased market value that such a street would give to your property?

If so, the experienced engineers of our Special Service Department can help you. These men have given years of study to road problems. Their advice and assistance may be had for the asking. If you will write us regarding road conditions in your vicinity, your letter will be given prompt attention.

# Tarvia

*For Road Construction  
Repair and Maintenance*

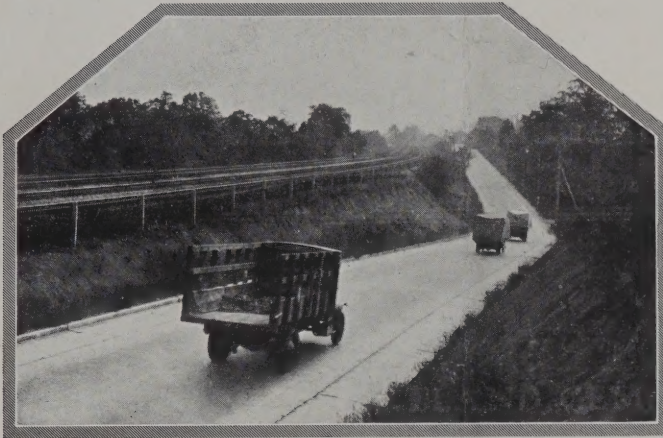
Tarvia is a coal tar preparation made in a number of grades to meet varying road conditions. It is the most popular road material in America and has solved the problem of low cost, traffic-proof roads and pavements for hundreds of towns throughout the country.

C. C. RANDOLPH  
Telephone 2466, PLAINFIELD, N. J.  
ASHLEY BURNER  
Telephone 2232, PLAINFIELD, N. J.

The *Barrett* Company  
40 RECTOR ST., NEW YORK CITY

C. A. BAKER, JR.  
Telephone 323, CLOSTER, N. J.  
H. M. SMITH  
Telephone 96M, RIVERTON, N. J.





(Courtesy Portland Cement Association)

## Pave for Permanence

"Dust thou art, to dust returnest" was not spoken of the road made with Vulcanite cement. When you mix with Vulcanite, you know that pavement will *stay put* for all time.

"Vulcanite roads *stay* right, because Vulcanite Cement is *made* right."

We reiterate that statement, because miles and miles of New Jersey roads attest its lasting truthfulness.

And our production capacity is ample to give you *immediate* delivery.

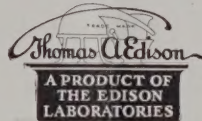
*"Let's get together and talk Cement"*

**VULCANITE PORTLAND CEMENT CO.**

PHILADELPHIA

BOSTON

NEW YORK



**When You Want That Car of Cement  
Shipped the Same Day You Order It—**

**Remember** that our trackage and packing houses are so arranged that we can spot and load *twenty-five cars at one time*. (Or a total of one hundred and fifty cars a day.)

**Remember** that we have been manufacturing cement *all winter*, and as a result we are now in a position to ship to capacity to meet your demands.

**Remember** that we are located and producing right here in New Jersey, so you can be sure of *quick delivery*, as well as of immediate shipment.

*"Edison service—Cement when you want it!"*

**EDISON PORTLAND CEMENT CO.**

NEW YORK

BOSTON

PHILADELPHIA

PLANT: NEW VILLAGE, N. J.



# ALONG THE ROAD



SHADOW LAWN

## Once More to the Open Road!

*A "cat may look at a king"—and the owner of any old "bus" may enjoy the beauty of "Shadow Lawn"—which was the summer home of ex-President Wilson, at West End, Long Branch, (Route 4). This wonderful place makes a fine "objective" for a week-end trip. Why not see it this summer?*

## A New Highway Bulletin

Again it is "open season" for motor trips.  
Have you planned any?  
Are you expecting to take advantage of the many miles of new road constructed last year?  
Do you feel the "call of the road"—and of woods and streams and over-night camp-sites?  
*Obey the impulse!*  
Here's how Jack feels about it:

Mr. Norman Applegate, Plainfield, March 5, 1922.  
Chief of Equipment,  
Highway Department.

Dear Sir:—I just wondered what this weather was saying to you. To me it says "lets go", and the kind hearted landlord gives me a pressing invitation to a camping out party, me to be the whole damn party.

Now this weather is not so bad for overhauling rollers, but it is sure damn bad camping weather. Maybe if I can show him some Treasury Stamps with Win-with-Bugbee's name on them, he, the landlord, may suspend sentence on me. What do you think?

Lets hear from you soon. Write, telegraph, telephone or tell Joe Barrett, or better still, tell me to get busy.

Yours with everything.

Signed JACK HAWKYARD,  
1221 W. Front St., Plainfield, N. J.

The HIGHWAYMAN wishes to be one of the first to welcome the *Highway Bulletin* of South Carolina in the field of usefulness open for the publication of facts relating to national, state, county and township roads.

Our own experience indicates that there is need for a regular publication which will accurately reflect the work of the state and various sub-divisions in highways.

We compliment South Carolina on the high and true-ringing declaration of purpose of the *Highway Bulletin*.



## The Modern Motor Mentor

*An ounce of attention is worth a pound of overhaul.  
An oiling a day keeps the repair man away.*

*Look before you back.*

*A rolling car gathers no crowd.*

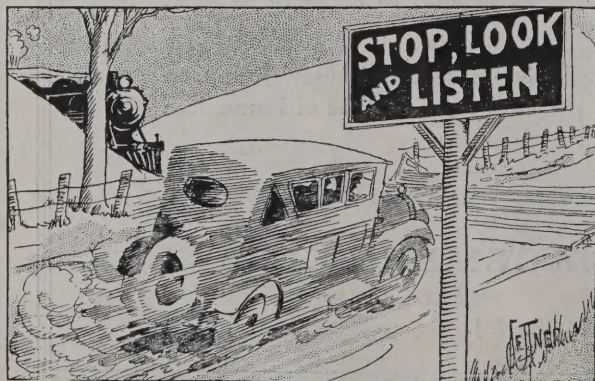
*A tool in the kit is worth thousands in the garage.*

*Service is as service does.*

*A little knowledge of electrical systems is a dangerous thing.*

*An ounce of instruction may save a pound of repair.*

*A skid to the wise is sufficient.*



"DEAF, DUMB and BLIND!"—(After Etner)



Do YOUR roads INVITE traffic to your town?